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FIG. 1A

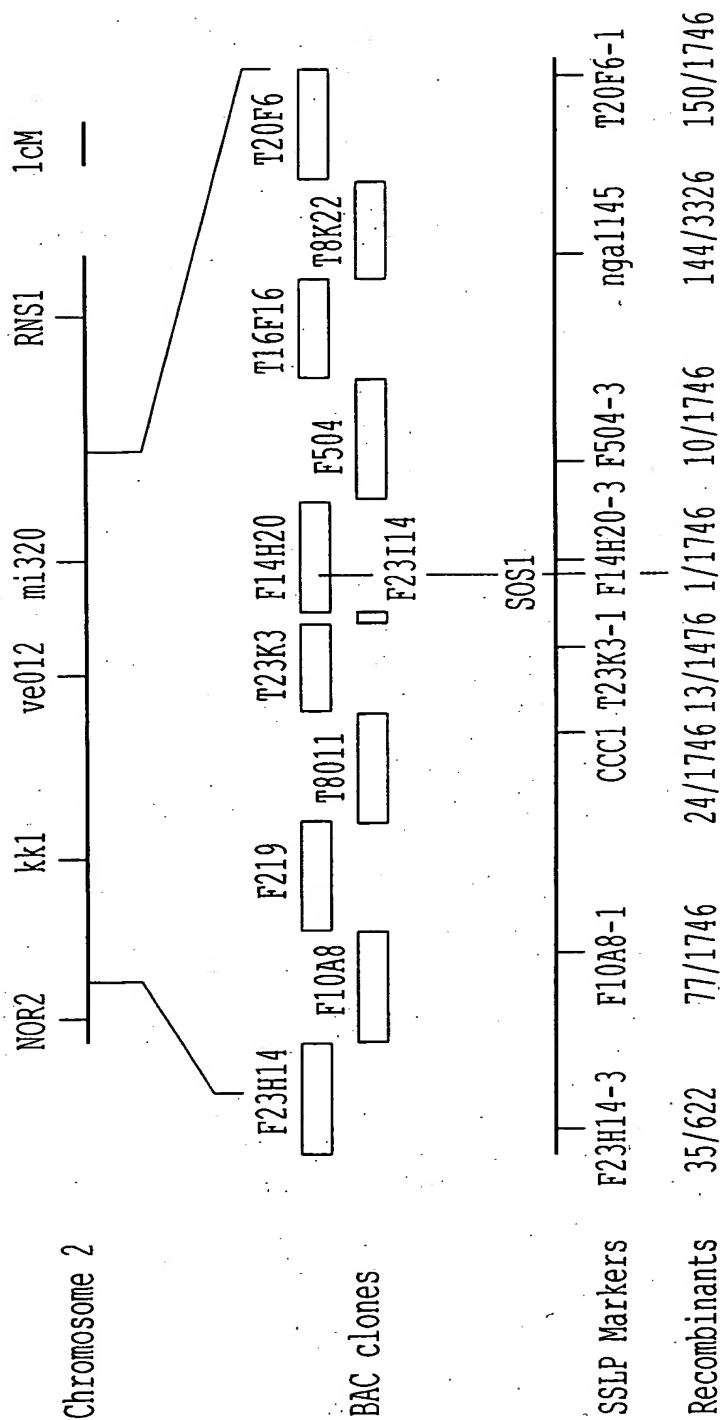
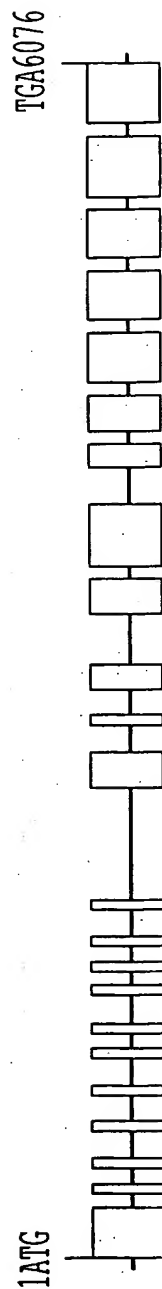


FIG. 1B



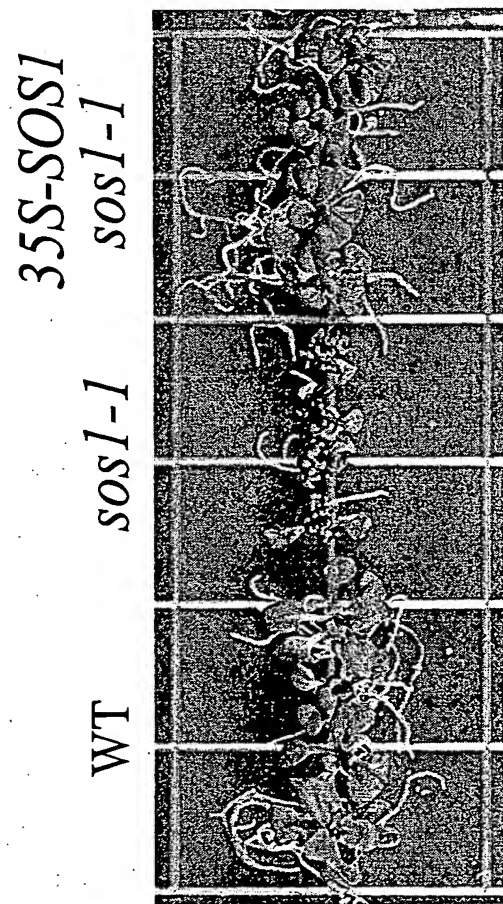


FIG. 2

FIG.3A

MTTVIDATMAYRFLEEATDSSSSSSSKLESSPVDVLFVGM^{TM1}SLVLG
 RHLLRGTRVPYTVALLVIGIALGSLEYGAKHNLKGIGHGIRI^{TM1}WNEIDPEL
 LLAVELPALLFESSFSMEVHQIKRCLGQM^{TM2}VLLAVPGVLISTACLGSLVKV
 TFPYEW^{TM3}DKTSLLLGGLLSATDPVAVVALLKELGASKKLSTIIEGESLMN
 DGTAI^{TM4}VVEQLFLKMGAMGQNSDW^{TM5}SSIIKFLKVALGAVGIGLAFGIASVIW
 LKFI^{TM6}FNDTVIEITLTIAVSFYFAYYTAQEWAGASGVLT^{TM7}MTLGMFYAA^{TM8}AFAR
 TAFK^{TM9}GSQKSLHHFWEMVAYIANTLIFILSGV^{TM10}VIAEGILDS^{TM11}DKIAYQ^{TM12}QNS
 WRFL^{TM13}FLYVYIQLSRVVVGVLYPLLCRFYGLDWKESIILVWSGLRGAV
 ALALS^{TM14}SVKQSSGN^{TM15}SHISKETGT^{TM16}TLFLEF^{TM17}TGGIVELTLVNGSTTQFVLR
 LRMD^{TM18}ILPAPKKRILEYTKYEMLNKALRAFDQDLGDD^{TM19}EELGPADWPTVESYI
 SSLK^{TM20}GSEGE^{TM21}L^{TM22}VHHPHNGSKI^{TM23}GS^{TM24}LD^{TM25}PKSLKDIRMRFLNGVQATYWEMLDEG
 RISEVTANILMQSVDEALDQVSTTLC^{TM26}DWRGLKPHVNF^{TM27}PNYYN^{TM28}FLH^{TM29}SKVVP
 RKLVTYFAVERLESACYISA^{TM30}AF^{TM31}LRAHTIARQQLYDFLGESNIGSIVINES
 EKEGEEAKK^{TM32}FL^{TM33}EKVRSFPQVLRVVKTKQVTSVLNHL^{TM34}LLGYIENLEKVG
 LEEKEIAHLHDAVQTGLKKLLRNPPIVKLPKLSDMITSHPLSVALPPAFC
 EPLKHSKKEPMKLRGV^{TM35}TLYKEGSKPTGVWLIFDGI^{TM36}VK^{TM37}WKSILSN^{TM38}NHSLH
 PTFSHGSTLGLYEVLTKPYLCDLITDSMVLCFFIDSEKILSLQSDSTID
 DFLWQESALVLLKLLRPQIFESVAMQELRALVSTESSKLT^{TM39}TYVTGESIEI
 DCNSIGLLLEGFVKPVGIKEELISSPAA^{TM40}LS^{TM41}SPN^{TM42}SGN^{TM43}QSFHNSSEASGIMRV
 SFSQQA^{TM44}TQYIVETRARAIIFNIGAFGADRTLHRRPSSLT^{TM45}PPRSSSSDQLQ
 R^{TM46}SFRKEH^{TM47}RGLMSWPENIYAKQQQEINKT^{TM48}TL^{TM49}SLSERAMQLSIFGSMVNVYR
 RSVSFGGIYNNKLQDNLLYKKLPLNPAQGLVSAKSESSI^{TM50}VTKKQLETRKH
 ACQLPLKGESSTRQNTMVESSEDEDEDEGIVVVRIDSPSKI^{TM51}VRNDL

FIG. 3B

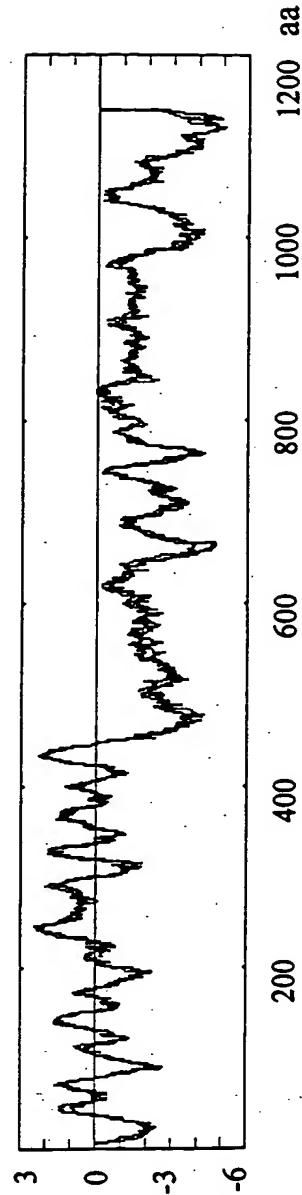


FIG. 4A

SOS1 1 MIVTVIDATMAYRFLLEATDSSSSSSSSKLESSPVDAVLFVGSLSVLGIASRHLLRGTRV
 Nhap 1 MLDIVAAEFVLTTELTYVN---YRFIR
 NHE1 61 VTAPSPPVHHPDDRNLNLHIEHGAKLRKAFVLDNDVTHVHTPFEISLWILLACEMK

SOS1 60 PYTVAFVISTALGSHEYGAKHN---LGGKIGHGIRIWNEHDPDLLAVFLPALLFESSSES
 Nhap 26 PPTGVMATAVFSLLVQGESLGYPLEVEMQEIIIRRIDFSEVLMTWFLPALLFAGALH
 NHE1 121 IGFHVPTISSLVPESCLLLVVGLLVGGGLIKGVGETPPFQSDVFFFLPPLPILLAGYF

SOS1 117 MEVNOIKRCLGOMVLLAVPGVLISTACLGSLMKVTFF-----YEDNKTSLLLGGLLSA
 Nhap 86 VLSDLRSYKWPIGLLATAGVLIATEVVGGLAYYTFPEFG---WQDDEYCLLFGALISP
 NHE1 181 LPLQOFTENLGTILFAFVVGTLWNAFFLGGLYAVCLVGGEQINNIGLEDLLFGSHISA

SOS1 171 TDPVAVVALKEELGASKKLSTHIEGESLNDGTAVVVFOLF-KMANGON--SDWSSIHK
 Nhap 143 TDPHAEVGLKLSAGAPKPLATTIVGESLNDGTAVVVFATILGIEQGEA--PTVSATAT
 NHE1 241 VDPVAVVAVFEELHINELLHIVFGESLNDGTAVTVVEXHLFEFEFANYDSIGISDIPLGFL

SOS1 228 FLKVALGAVGICLAEGRASVIVWKKFIFNDTVIEFTLTAAVSFYAYYTAQEMAGSGVET
 Nhap 201 LFGQEAAGGVVFCVAVLGYGVFMRRGID-QYQVEMLTAAVIGCAALAAARLHVSAPIAM
 NHE1 301 SFFVALGGVFVGVVGVIAAFTSRETSHIRVIEPFEVFLYSYMAVLSAELEHESG-TWA

SOS1 288 VMTLGNFYAAFAATAFKGDSQSSHHFWEMAYIANTLIFILSGVITAEGILDSDKTAYQ
 Nhap 260 VVAGLITGNHGRHYAASDETHHYDDEFWETDEILNALFFALIGTEELLFFSWLWMAA-
 NHE1 360 LTAAGVMRPLVEANISHKSETTDEHYELKMWSSVSETLIFIFEGVSTVAGSHQAN-----

SOS1 348 GNSWRSEMLLYVYTOHSRVVVGVLYPFLCRFGYGLDWKES---IILVWSGLRGAVAFAL
 Nhap 319 --A--PALG--GAVLSRLTVGPAILVLRFRFGANRQVPAGTIRIILVWGGLRGQVSVAIL
 NHE1 415 ---VTSTLLECLARVLGVVLTWFINRFRIVKLTPKDQ--FIHAGGLRGALAFSL

SOS1 405 SLSKQS--SGNSHISKETGTAFLEF--FTGGFVELTLVNGSTTOFVLRRL
 Nhap 373 ALSPLG--PERDLILSLTYIVLVSLLOGESTGPLVRRRYAGQPLEKS
 NHE1 470 GYLMDKKHFFMCDLFLAIIITVFFEVFVQGMIRPLVDLEAVKKKQETK

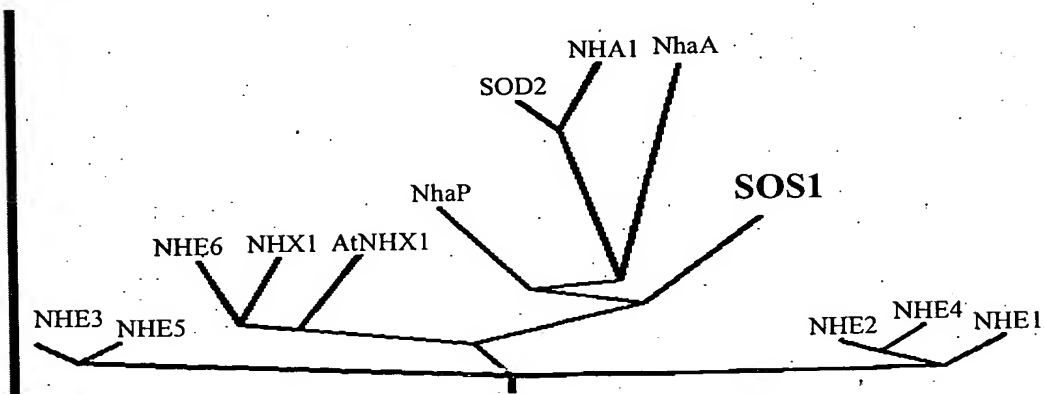


FIG. 4B

FIG. 5

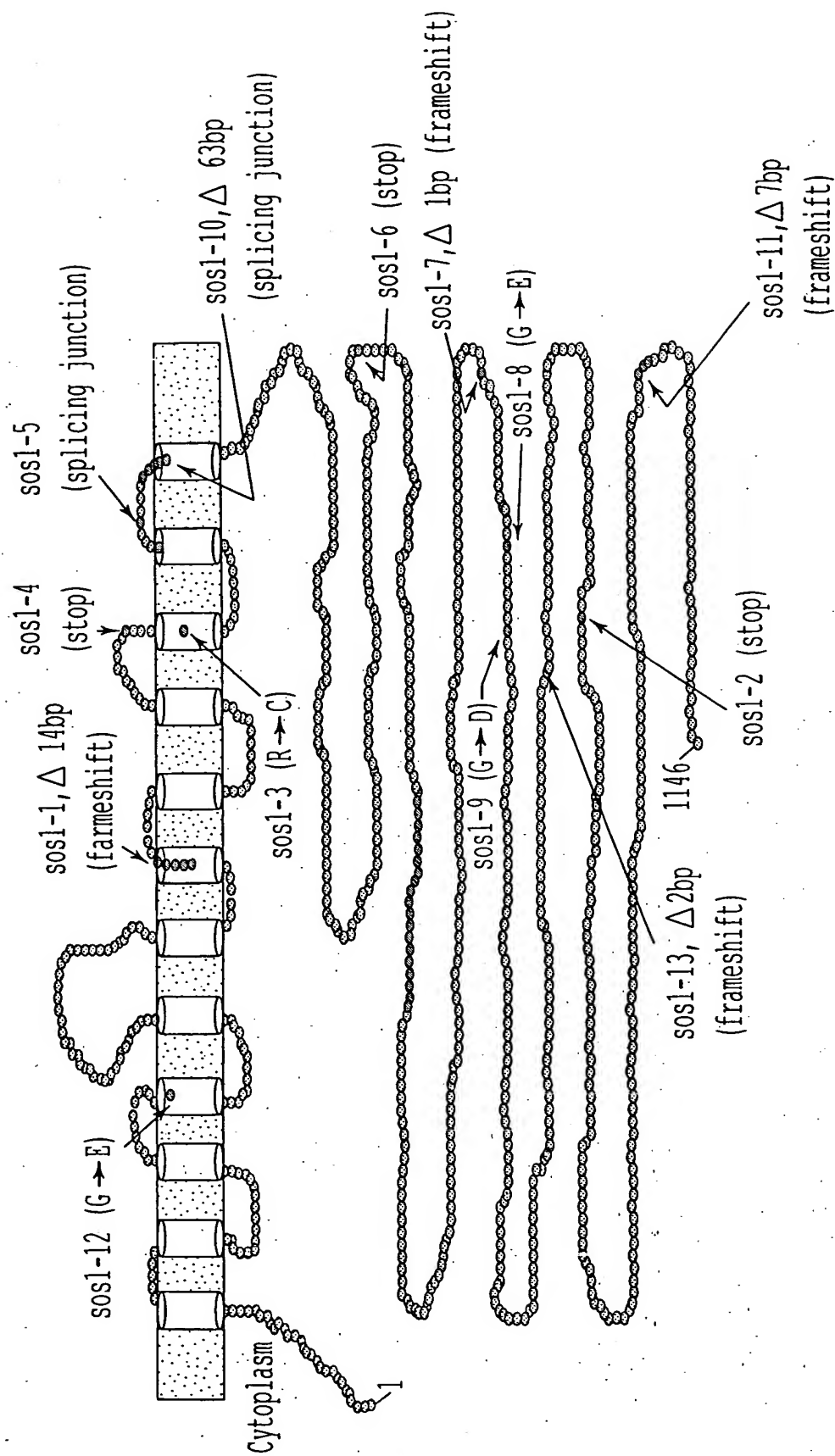


FIG. 6A

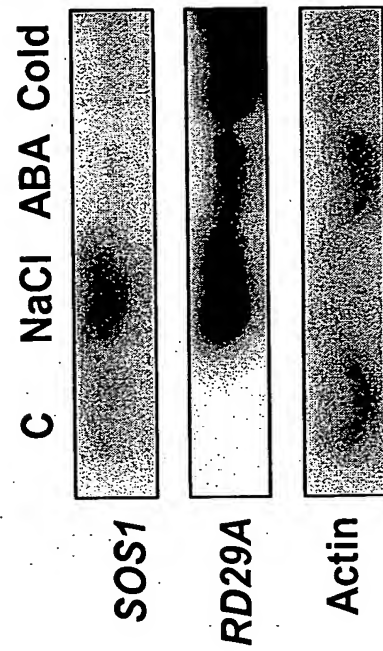


FIG. 6C

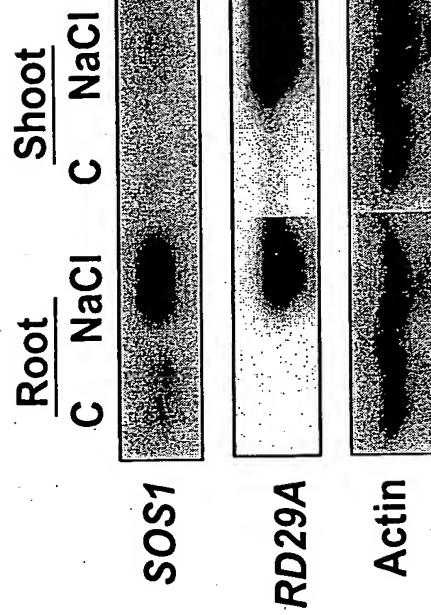
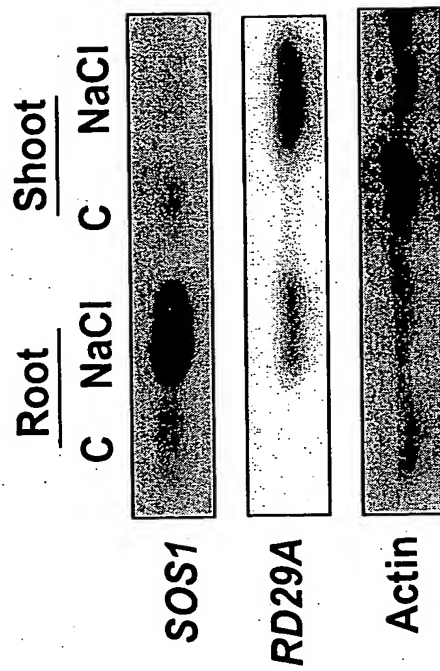


FIG. 6B

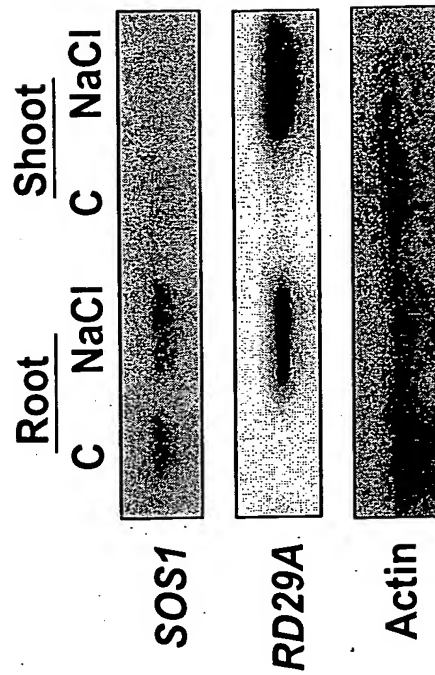


FIG. 6D

1 atgacgactg taatcgacgc gacgatggcg tatagatttc tggaggaagc gaccgattcg
 61 tctcttctt cttcttctt caaactagaa tctagccctg tgcagccgt tctcttcgtc
 121 ggaatgtctc tggactcgg tattgctct aggcacttgc ttcgtggaac tagggttcct
 181 tacactgtcg cttctctcgt tatcggaatt gctcttggat ctctcggttc gatttcgttc
 241 catggaattt ctgatttctt catctgtttt aatccttgaa gtcaacgtaa tcatgcttaa
 301 ttgctaattc atgttgtttg gtgtttcaga atatggagct aaacataacc ttggaagat
 361 cggccatgga attcgtatct gtaagttttt agtttcgaat tttcttctc ttccatggct
 421 ggctttgtaa gaactataga atcaatgtta ttgtgcaggg aatgagatcg atccagaact
 481 tcttttagct gttttcttc cggctcttct ttccgagagt tcgtttcaa tggaaagtca
 541 ccaaattaag gtttattcct ctggctctaa ttccatgtta agcttaaagg ttaagagaaa
 601 taggtactga atacttgc atgattcttag aggtgtctgg gacaaatggg gttacttgc
 661 gtccctggag ttctatttc aacagcttgt ctggatcgc ttgtgaagg atgaattagc
 721 ctggttggta ttaagtagct gtccgtaaaa caaagaaaga caaatcgatt attatgtat
 781 gaaactatac ttgctatag caggctacgt ttccgtatga atgggactgg aaaacgtcct
 841 tgttgcctgg gggactttta agtgctactg atccggttgc tgttgttgc ttgctaaagg
 901 agcttgggtc tagtaagaag ctaagcacca taatgaagg ggaatccctg atgaatgatg
 961 ggtaaatgac gttatcttct gtcattggtt ggtagttt gacatttatg ctactcttc
 1021 atgattttta acaacaattc caggacggcg attgtgtt tccagttatt cttaagatg
 1081 gctatggggc aaaactctga ctggagttct ataatcaaat ttctgcttaa agtcgcactt
 1141 ggagcgtatg tcttgatctt ttctatctg ttgttagtga tatcaagtg ctgctgtgtt
 1201 cttatcagtc caacgtgttc ttctgtctat ttagttagg cattggctc gcgtttggca
 1261 ttgcatcagt tatttggctc aagttcatat tcaatgacac tgtaatagag attactctta
 1321 caattgcagt gagctatttc gcatactaca ctgtacgtct ttctgtagac ctgaattcc
 1381 tgtgctaaga tattctctt gtagtaaaac tgagagtta ttgttgaca ggctcaagag
 1441 tgggctgggg ctctcgtgt ttgacggc atgacttgg gcatgaaat ttcaatgac
 1501 tcgtatttt ttttccct ttctttgtt atcatttaag aagtccttc tcataaaata
 1561 actgtaacag gtttatgtc gcatttcaa ggacagcctt taaagggtac agtcaaaaaa
 1621 gcttgcatac ctctcgtat ttccagaact tgtggaattt ggacttgtt ttttatattg
 1681 taactctatg taaaagggtg atctgtgtga tataaattt cccgtaact tgtgcaggga
 1741 aatggttgca tatattgcaa acacttgat attatctc aggtaagggt aaattttata
 1801 gactcatatc atgcttgtc ttccaaccc taaaatagaa gctcatgggt agaaaaaaga
 1861 gctattttac tgcagtctac tcttagcct ggtgttcaa tattgactgt gttctcgtt
 1921 ttatgttgc agtggtgtt tcatgtctga aggcattctc gacagtata agattgccta

FIG. 7A

1981 ccaaggtgcc attatttaatt gtgatagtg tacagtattt ttttctagc taaagtaaat
 2041 ttgtgaaca tagtttgcg tgcatttcg acagttcact gtaattgaa gatgagatct
 2101 aagtcattac ataggactcc cacctgttat catagtttc tgcgttggt aacacacct
 2161 actgttcagtg gtcttgggt ctcgaaggat cactaattcc ataacgtgaa tcagttacaa
 2221 gaataagaaa aaaactggca ttattggta cgaaatattg agcgaaagt accactgtgc
 2281 taggactgag acaattgtat tcttcacca gtctgttatt attattaagt acctgttaga
 2341 gatgtactgt ctggaacca tatattttt ctctggaacc atatctgcat aaggcacatg
 2401 atatacttaa cttaactat ttttatatt ttggatctaa caactctca cgacccaaat
 2461 ttcttacagg gaattcatgg cgatttctt tctgtctata cgtttacatc caactatcgc
 2521 gtgtgtgtgt tgttgaggt ctatatccac tttatgtcg tttggctat ggtttggatt
 2581 ggaaagaatc cattatactc gtatggctg gtttgagggg cgcagtggct ctgcacttt
 2641 ctttatccgt gaaggtaat ttaagaaca tctgttaaag ttgttctct ctctaaatt
 2701 tctgcacaat gttttttcc agccacattg attctgtgct gacttactcg cactcattg
 2761 attcagcaat caagcggaaa ttcacatc agcaaggaga ctggaacatt ggtaagttag
 2821 tctaaagatg ttattgacaa cttaaatga ttatgcaaat tattgtttg tctctcata
 2881 ttctcagttc tttgcagtt tctttcttc acgggtggaa ttgtttcct aactctgata
 2941 gtaattggat ccaactacca attgttcta cgcctcttc gcatggatat ttaccagcc
 3001 cccaaggtca aaaactctc tcatacgaat aactttcga gtttaagta atcaaatata
 3061 tgtgtaaaca gagattttt tgcttatgct ttgtattcat gtgtaagtga ccgtgttagc
 3121 ctgagtctga gccttaagc tgtatagttc aatagggctc gtatgttcta gtcagtaatg
 3181 tctcgaaga acctattag aaaccacttt cctttgaca gaaacgaata ttggaatata
 3241 caaagtacga aatgttgaat aaggccttac gagcgttca agatctagga gacgatgagg
 3301 agctaggacc tgctgactgg cctacagttg aaagttatat ttcaagccta aaagggtcag
 3361 aaggggaact agttcatcat cctcacaatg gctctaaaat tggaagtctt gaccctaaaa
 3421 gtttaagga catagtgatg cggttcttaa atggtagtta tgatcatgta cctccaata
 3481 tactatttta cctggtagat tattgacact ttgaaaattg gttgtgtcag gtgtgcaagc
 3541 aacttactgg gagatgcttg atgagggcag aatatctgaa gttactgcta atatttgat
 3601 gcagtcagtg gatgaggcgc ttgatcaggt ttctacaact ttatgtgatt ggagaggtct
 3661 aaaaccacat gtcaatttc caaattacta caactttct cattctaaag ttgtcccacg
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FIG. 7B

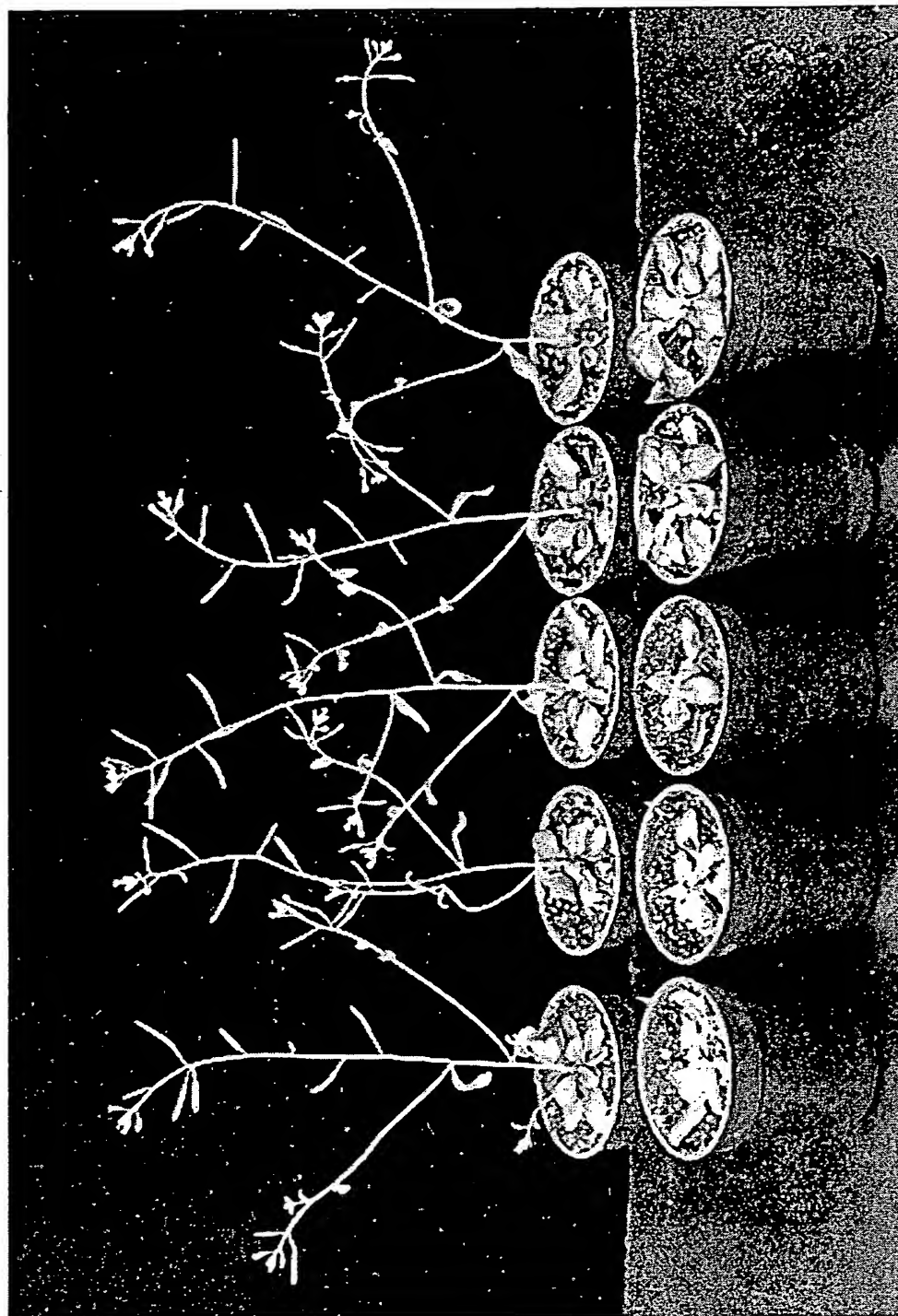
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 4561 tcacgcttta taaagaagg tcaaagccaa ctggagtctg gcttatttt gatggcatcg
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 5881 agccaaatca gaaagtcaa ttgtgaccaa gaagcagctt gaaaccgta aacatgcgtg
 5941 tcagcttct ctgaaaggg aaagcagcac aaggcaaat acgatggtg aatcaagcga
 6001 tgaagaagat gaagatgaag gaatcgtgt gagaatcgat tctccagta aaatcgttt

FIG. 7C

6061 caggaacgat ctatga

FIG. 7D

FIG. 8



Transgenic plants overexpressing *SOS1* and control plants that were transformed with vector only were compared for their salt tolerance. All plants were grown in soil on a long-day cycle (16 hours light, 8 hours dark). The first 13 days after germination the plants were watered with a diluted nutrient solution (1/8 MS) as needed. Starting on the 14th day, this solution was supplemented with NaCl. The supplementations consisted of four increasingly higher concentrations (50mM, 100mM, 150mM, and 200mM) of NaCl. The plants were treated for four days at each concentration, for a total of 16 days. On the 16th day the above picture was taken.